

Lab Assignment & Solution



Cybersecurity Professional Program
Introduction to Python
for Security

Functions

PY-05-LS8

Car Creation

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Note: Solutions for the instructor are shown inside the green box.



Lab Objective

Understand object-oriented programming (OOP) and how to create classes in Python.



Lab Mission

Implement object-oriented programming concepts by creating a class with attributes and objects.



Lab Duration

20–30 minutes



Requirements

- Basic knowledge of Python



Resources

- Environment & Tools
 - Windows, Linux, and macOS
 - PyCharm
 - Python 3



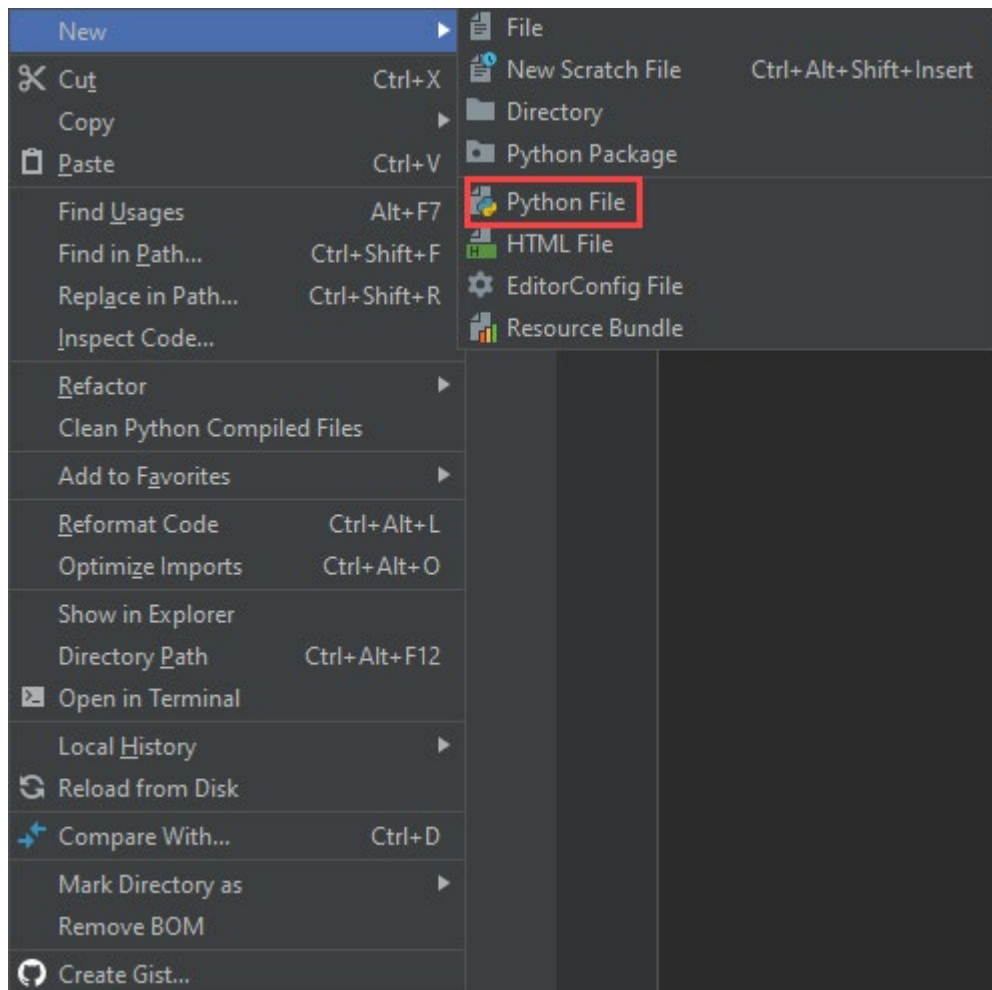
Textbook References

- Chapter 5: Functions
 - Section 3: Object-Oriented Programming

Lab Task: Creating a Car Class in Python

Practice the implementation of object-oriented programming by creating a class and its attributes.

- 1 Create a new Python file in PyCharm by right clicking the project you created and selecting **New > Python File**.



- 2 Create a new class named **Car**.

```
class Car:
```

- 3 Define the initialization method of the class, which should include the parameters: *self*, *color*, *windows_number*, and *price*.

```
def __init__(self, color, windows_number, price):
```

- 4 In the method, assign the data passed by the parameters to the *self* variable.

```
def __init__(self, color, windows_number, price):  
    self.color = color  
    self.windows_number = windows_number  
    self.price = price
```

- 5 Outside the class, create a new class object and pass the required parameters to it.

```
car1 = Car("Red", 4, 100000)
```

- 6 Create another object of the *Car* class.

```
car2 = Car("Blue", 2, 300500)
```

- 7 Print the color of the first *Car* object.

```
print(car1.color)
```

- 8 Print the price of the second *Car* object.

```
print(car2.price)
```